Remote Sensing Applications Division (RSAD)

CDR Program Office

Weekly Report for Nov 21, 2014
Ed Kearns, Chief

			Assessment		Deliver Drafts						Review and Provide Feedback						Deliver Final Versions						Misc		Archive			Release		
Status	CDR	PI TM	Assemble IPT	Perform Assess-ment	Deliver source code sample and README draft	Deliver Flow Diagram Draft	Deliver C-ATBD Draft	Deliver Maturity Matrix Draft	Deliver Sample netCDF dataset	Deliver SA Draft	Provide feedback on source code and README	Provide feedback on Flow Diagram Draft	Provide feedback on C-ATBD Draft	Provide feedback on Maturity Matrix Draft	Provide feedback on Sample netCDF dataset	Provide feedback on SA Draft	Deliver final source code and README	Deliver final Flow Diagram	Deliver final C-ATBD	Deliver final Maturity Matrix	Deliver final netCDF dataset	Pass DSRR	Create Collection Level Metatdata	Conduct Security Review	Archive Code Package	Archive Docs	Archive Data	Make data publicly available	Put data, docs, and code on dev web page	Conduct ORR
1	Ozone - ESRL	Rosenlof Young	x	x	20-May	12-Jun	20-Mar	20-Aug	30-Oct 4-Apr	12-Jun	12-Jun	26-Jun	27-Mar	21-Aug	6-Jan 12-Jun 5-Aug	21-Aug		21-Aug	19-Aug	11-Sep		19-Nov		9-Oct						DEC
2a	SST - WHOI	Clayson Peng	x	21-Feb	12-Dec	3-Apr	20-May	19-Feb	25-Nov	8-Aug	16-Dec	8-Aug	6-Jun	30-Oct	13-Dec	13-Aug		29-Oct	22-Oct			15-Oct	15-Oct							JAN
2b	Ocean Surface Properties	Clayson Peng	x	21-Feb	12-Dec	3-Apr	20-May	19-Feb	25-Nov	8-Aug	16-Dec	8-Aug	6-Jun	30-Oct	13-Dec	13-Aug		29-Oct	22-Oct			15-Oct								JAN
2c	Ocean Heat Fluxes	Clayson Peng	x	21-Feb	12-Dec	3-Apr	20-May	19-Feb	27-Jun	8-Aug	16-Dec	8-Aug	6-Jun	30-Oct	8-Aug	13-Aug		29-Oct	22-Oct			15-Oct								JAN
3a	Cryosphere (APP FCDR)	Key Young	13-Jun	IP 20-Dec	3-Jun		20-Mar 25-Sep	12-Mar	12 Mar 27 Jun		27-Aug		25-Apr	20-Mar	25-Apr		18-Sep													MAR
3b	Cryosphere (APP-x TCDR)	Key Young	13-Jun	IP 20-Dec	3-Jun		20-Mar 18-Sep	12-Mar	12 Mar 27 Jun		27-Aug		25-Apr	20-Mar	25-Apr		18-Sep													MAR
4a	AVHRR FCDR (5 CHs)	Minnis Young	x	22-Nov		14-Feb	31-Dec 28-Mar	7-Feb	14-Feb	20-Dec 31-Jul		21-Feb	13-Feb 2-Jun	14-Feb	18-Feb	19-Jun					1TB /day	29-Oct					60 TB CLASS			APR
4b	AVHRR Cloud Properties - NASA	Minnis Young	x	22-Nov		14-Feb	31-Dec 28-Mar	7-Feb	14-Feb	20-Dec 31-Jul		21-Feb	13-Feb 2-Jun	14-Feb	18-Feb	19-Jun					1TB /day	29-Oct					60 TB CLASS			APR
5	Vegetation (LAI/FAPAR)	Vermote Matthews	x	17-Jan	24-Jun	2-Jul	10-Sep	10-Sep	16-Jul	6-Nov	29-May	9-Jul	17-Sep	11-Sep	4-Nov	8-Oct	30-Oct	1-Nov	4-Nov	5-Nov	4-Nov	12-Nov								DEC
6a	Cloud Top Pressure	Menzel Young	x	31-Jan	1-Oct	5-Aug	15-May	5-Aug	21-Oct 11-Jul 25-Jul	21-Sep	29-Oct	29-Oct	29-Oct 10-Jan		4-Nov 24-Jul		2-Oct				NCDC creating									MAR
6b	Total Precipitable Water	Menzel Young	x	31-Jan	1-Oct	5-Aug	15-May	5-Aug	21-Oct 11-Jul 25-Jul	21-Sep	29-Oct	29-Oct	29-Oct 10-Jan		4-Nov 24-Jul		2-Oct				NCDC creating									MAR
7a	Total Solar Irradiance	Pilewskie Inamdar	x	6-Mar	22-Jan	26-Mar	25-Sep	26-Mar	25-Sep	Approved to Archive	9-May	11-Apr	6-Oct		9-Oct															FEB
7b	Solar Spectral Irradiance	Lean Inamdar	x	6-Mar	22-Jan	26-Mar	25-Sep	26-Mar	25-Sep	Approved to Archive	9-May	11-Apr	6-Oct		9-Oct															FEB
8	GPCP Monthly	Adler																												FY16
9	NEXRAD	Nelson Nelson			See	Project	Quad	Chart																						FY15
10	CMORPH	Xie Prat	x																											FY16
11	ISCCP	Rossow Knapp	x	x	See	Project	Quad	Chart																						FY15

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1	Ozone - ESRL	Rosenlof Young	**1)** Working ORR Checklist; Some final metadata issues to iron out before data transfer starts; **DSRR postponed**																											DEC
2a	SST - WHOI	Clayson Peng	**2a)** Received images for flyers and metadata thumbnails ; drafted discovery metadata;																											JAN
2b	Ocean Surface Properties	Clayson Peng	**2b)** UESB presentation Dec; Received final C-ATBD and put in Library																											JAN
2c	Ocean Heat Fluxes	Clayson Peng	**2c)** Completed processing, tested sftp, DSRR complete																											JAN
3a	Cryosphere (APP FCDR)	Key Young	**3a)** Feedback sent on metadata																											MAR
3b	Cryosphere (APP-x TCDR)	Key Young	**3b)** Received updated drafts on both C-ATBDs																											MAR
4a	AVHRR FCDR (5 CHs)	Minnis Young	**4a)** NASA code review in progress - needed before release to NCDC; UESB (2.12.15); Passed DSRR **(+3 mo. to archive the data)**																											APR
4b	AVHRR Cloud Properties - NASA	Minnis Young	**4b)** IR calibration work in future enhancements; **Doc and code packages will be last to archive (special provisions added to SA)**																											APR
5	Vegetation (LAI/FAPAR)	Vermote Matthews	**5)** Received final C-ATBD; Updated SA; DSRR complete; **transferring data**																											DEC
6a	Cloud Top Pressure	Menzel Young	**6a)** Updated CTP code delivered; **Received preprocessing and TPW code – Scott Stevens notified**																											MAR
6b	Total Precipitable Water	Menzel Young	**6b)** Will use subset of LVL2 PATMOS data to recreate 10 years of sample data. Then get full POR of subset from Andy																											MAR
7a	Total Solar Irradiance	Pilewskie Inamdar	**7a)** Decided that quarterly updates to the POR will be preliminary data and updated annually with the CDR																											FEB
7b	Solar Spectral Irradiance	Lean Inamdar	**7b)** Provided feedback on C-ATBD, data, and code																											FEB
8	GPCP Monthly	Adler	**8)** On Hold																											FY16
9	NEXRAD	Nelson Nelson	**9)** See Project Quad Chart																											FY15
10	CMORPH	Xie Prat	**10)** On Hold																											FY16
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12	Sea Ice Concentration - Daily	Fetterer Peng	x	PI says NO deliverables	**12)** PI using current funds to modularize existing code; development on SIC-Daily in FY15 via a subcontract to GST																								FY16
13a	Hydorogical Bundle	Ferraro Nelson																											FY16
13b	AMSU-A FCDR	Ferraro Nelson																											FY16
13c	AMSU-B FCDR	Ferraro Nelson																											FY16
14	Sea Level	Callahan Zhang																											FY16
15	Mean Layer Temperature - NOAA	Zou Semunegus																											FY16
16	Tropospheric Height	Ho Shi																											FY16
17	Surface Albedo	Matthews			See	Project	Quad	Chart																					FY17
18	UTH Related FCDR	Lou																											FY17
19	AVHRR + HIRS Cloud TCDR	Heidinger Knapp																											FY17
20	ISCCP Enery Budget	Zhang																											FY17
21a	GPCP Daily	Adler																											FY17
21b	GPCP Pentad	Adler																											FY17
22	Ozone	Long																											FY17

Other Discussion Items:

1) GridSat vs. ISCCP output
   - Life expectancy of GridSat once ISCCP is operational
   - Can users easily substitute the two outputs
   - Should software rejuvenation efforts shift to ISCCP or another CDR
   - **Decision to move forward with automation efforts for GridSat but wait on full code rejuvenation effort.**

2) PATMOS LVL2 data
   - Input to Menzel (CTP/TPW) and Key (APP/APP-x) CDRs
   - Archive options into CLASS (initial estimate submitted was 14 TB)
     - Subset for CTP/TPW (6 TB)
     - Add Key's input and a few other valuable variables (28 TB)
     - Complete LVL2 data (50 TB)
     - **Decision to received Subset for CTP/TPW and look into full LVL2 data in the Summer**

CDRP Open Change Requests

Name of CDR	C-ATBD	Data Flow Diagram	Maturity Matrix	VDD	Source Code	NetCDF sample	Dataset	Request to Archive	Approved for Archive	SA	DSRR
Geostationary IR Channel Brightness Temperature - GridSat B1	Returned to PI with edits	Needed, TBD	Needed, TBD	N/A	√	√	√	√	√	√	Aug-13
Sea Surface Temperature - Pathfinder	Will not be receiving from U of Miami	No change	No change	√	√	√	Having QA issues, will not be delivered until end of CY 2014	√	√	Needed TBD	Needed, TBD
Mean Layer Temperature - UAH	Returned to PI for edits	√	N/A	√	requested new schedule	requested new schedule	Needed, TBD	Needed, TBD	Needed, TBD	Needed, TBD	Needed, TBD

GST FY14 O&M Subcontracts

PI	CDRs	Impl Plan	QA Procedure	QA Results/ Summary	Annual Report
Christy	Mean Layer Temperature - UAH	√			
Ho	- Mean Layer Temperature - UCAR (Lower Stratosphere) - Mean Layer Temperature - UCAR (Troposphere and Stratosphere) - Tropopause Height Climatology	Subcontract in place 11/10/2014			
Robinson	Snow Cover Extent (Northern Hemisphere)	√			
Sorooshian	Precipitation - PERSIANN-CDR	√			
Zhang	ISCCP Radiation Budget	√	and QA graphic tools		
Wentz	SSMI(S) Brightness Temperature - RSS	√			
Mears	Mean Layer Temperature - RSS	√			

CDR Program Office

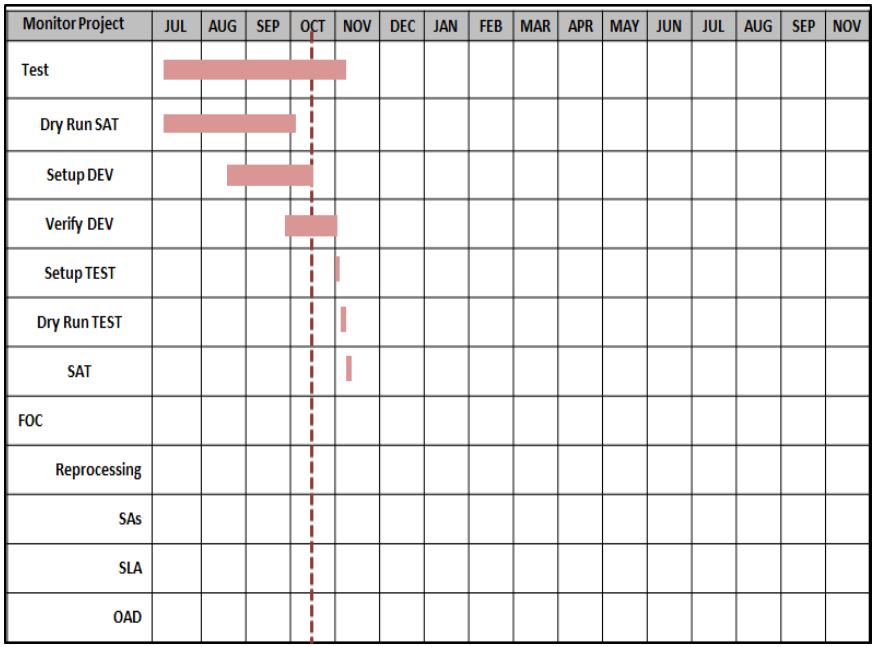
OISST Rejuvenation Project

Team Lead:
Drew Saunders

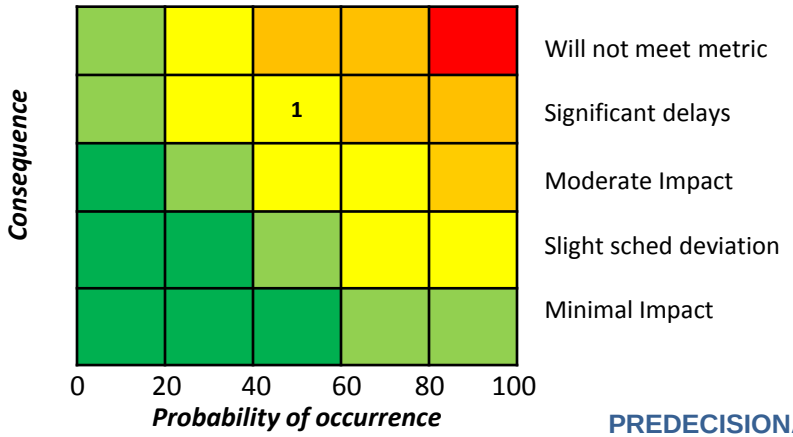
Weekly Report – November 21, 2014

1 ISST – Optimum Interpolated Sea Surface Temperature

- **Setting up software to run on the oisst-dev container.**
- **Testing high res ice code to convert to low res ice for SST.**
- **Resolved differences between Navy SST files from NAVO.**
  - **Verified format and content.**
- **Test validation took longer than expected need to update schedule.**
- Resolved differences in 32 and 64 bit runs. Discussed with PI.
- DEV container created.
- Performing dry runs for the System Acceptance Test (SAT).
- Successfully completed 30 day parallel test.
- Comparing NCDC GTS with NCEP ship/buoy data for use. GCAD is resolving issues but requires new operational code.
- AVHRR data for the 15 day delay product is available from CLASS.
- GSTWG discussing inputs and production of preliminary OISST.
- Created a SOP for operational OISST.
- Completed refactoring of each component.
- Conducted Technology Assessment Review.



Risk Matrix



Risk and Mitigation

1 Time to progress through the three tier environment. ITB support is required.

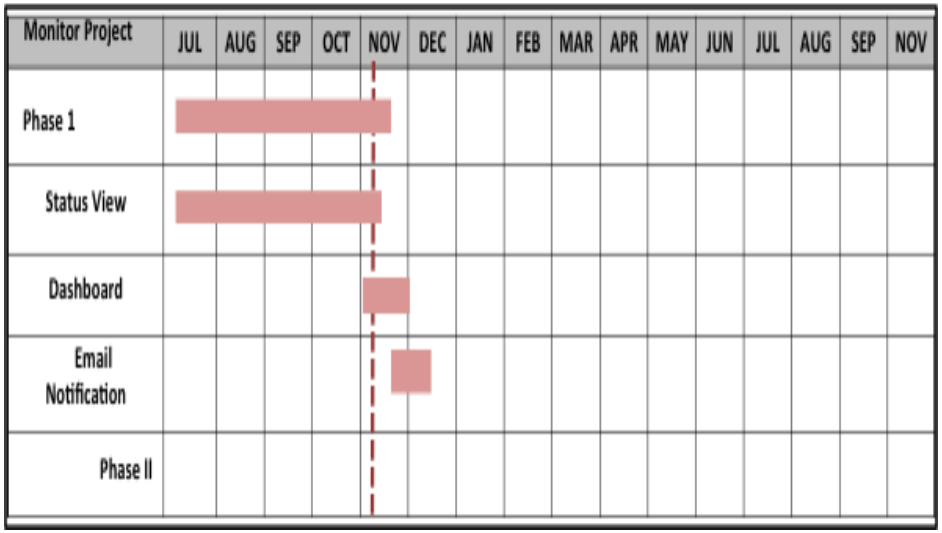
CDR Program Office
Ingest Monitoring Tool

Team Lead:
Linda Copley

Weekly Report – November 21, 2014

1 Operations Monitoring Tool development

- Re-engineered design to be compatible with other status monitoring efforts.
- Utilizing SIPGenSys infrastructure.
- Designing module to collect status data from iRODS.
- Working on database design.
- Defined requirements for Phase 1 of the project.
- Phase 1 implements basic functionality.
- Additional datasets can be added in later phases.
- Updated the monitoring project plan.
- Monitoring of operational ingest.



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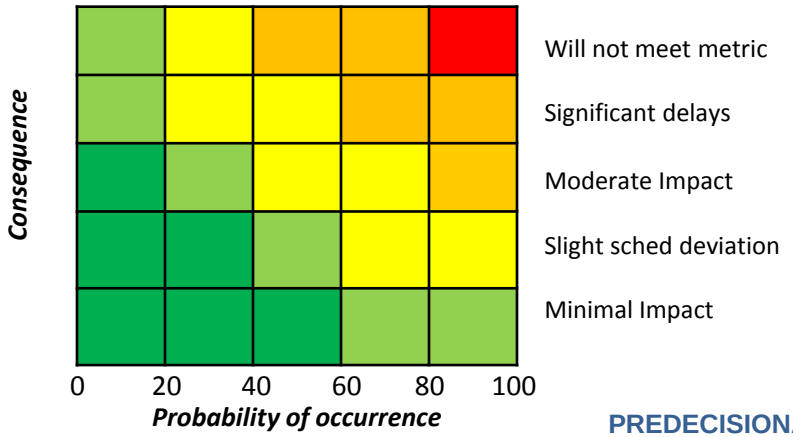


Risk and Mitigation

PREDECISIONAL DRAFT INFORMATION

= On-track = Potential management action required = Management attention required

CDR Program Office

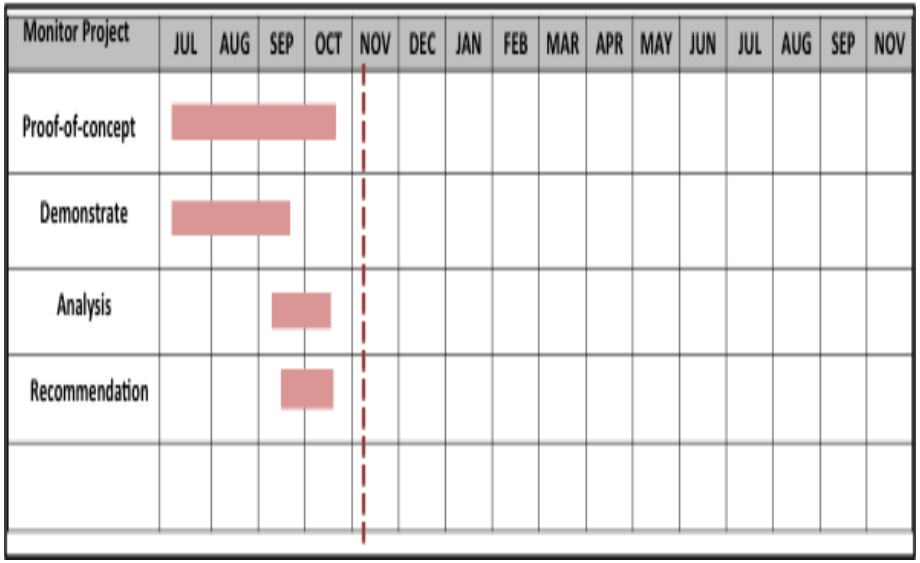
Federated Archive Search Tool (FAST)

Team Lead:
Linda Copley

Weekly Report November 21, 2014

1 Federated Archive Search Tool proof-of-concept

- **Completing display application to demonstrate query capability.**
- **Added VIIRS query capability.**
- **Adding VIIRS thumbnail images.**
- **Update schedule with recommendations paper.**
- Investigating Hollings Scholar intern opportunity.
- Working on application to demonstrate query capabilities.
- Connected all data to geographic and date references.
- Designed and loaded VIIRS catalog graph data.
- Designed and loaded Storm Events graph data.
- Loaded FIPS geographic data.
- Installed Neo4j graph database with spatial extension.



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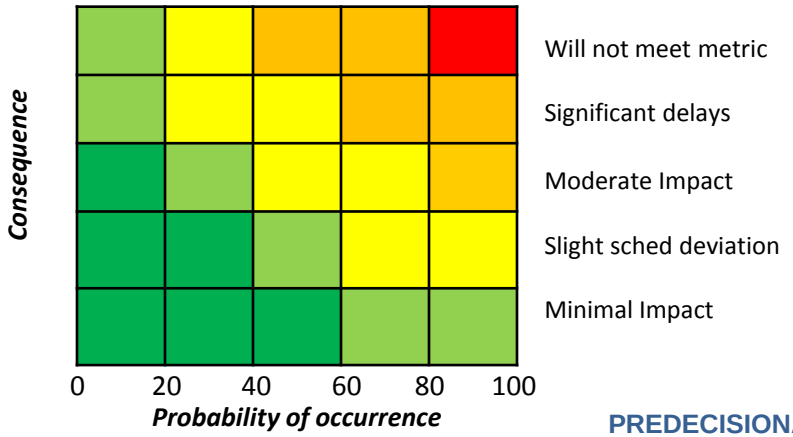


Risk and Mitigation

CDR Program Office
Reprocessing VIIRS SDRs

Team Lead:
Jim Biard

Weekly Report – November 21, 2014

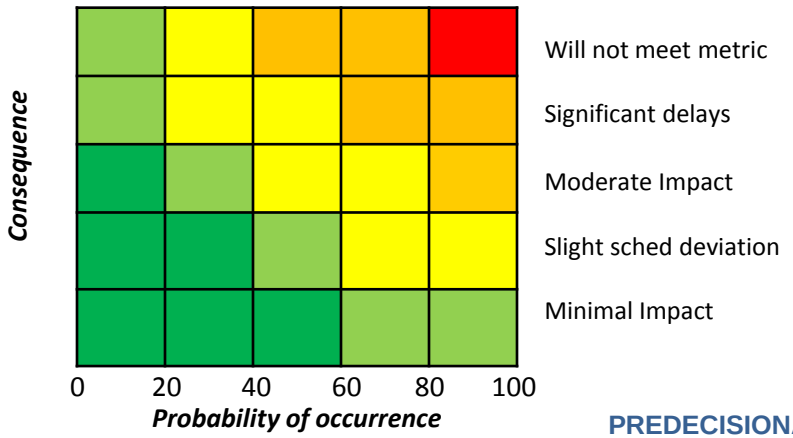
1 Reprocessing VIIRS SDRs

- **On hold as work Obs4MIBs and FAST application.**
- Reviewed Hai-Tien Lee OLR code .

- Defined schedule estimates for project.
- Talking with STAR scientists (Changyong Cao, etc) to identify parrallelization capability of VIIRS algorithms.
- Developed draft white paper to identify issues and scope.
- Have identified parts of the algorithm that need to 'conditioned' during runtime and will affect reprocessing estimates.
- Discussed scope and goals of the project with CDRP scientist.

Milestone	Begin Date	End Date	Effort (Days)
Develop VIIRS SDR granule comparator	TBD	TBD	10
Obtain data and software	TBD	TBD	5
Configure ADL	TBD	TBD	10
Produce matching reprocessed VIIRS SDR granules	TBD	TBD	20
Analyze requirements for parallel reprocessing	TBD	TBD	5
Develop parallel reprocessing management system	TBD	TBD	10
Determine practical limits on parallel reprocessing	TBD	TBD	20
Write a final report	TBD	TBD	5

Risk Matrix



Risk and Mitigation

PREDECISIONAL DRAFT INFORMATION

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CDR Program Office

NOAA NEXRAD Reanalysis

Project Manager:
B. Nelson

Weekly Report

NNR – NOAA NEXRAD Reanalysis

5-minute data is being processed

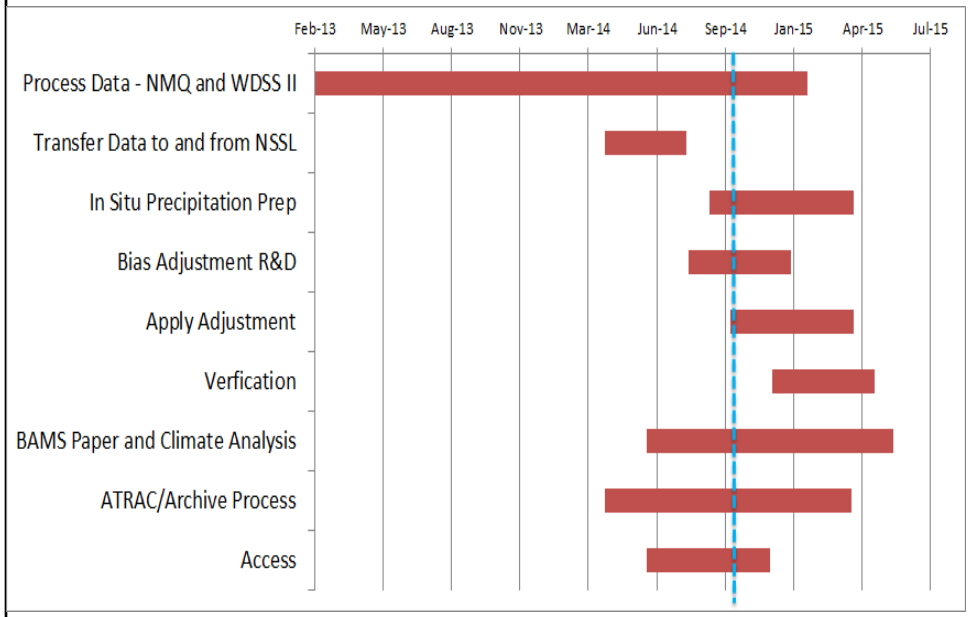
Hourly IDW procedure is being implemented

Assessment of bias at hourly scale is underway for full years (2008-2011)

Hourly scale idw is being tested and set up for processing for pilot domains

Re-do daily gauge-radar processing to consider obs time for COOP data - Only minor improvement for daily

- Hourly data for HADS locs has been processed for 4 full years
- Assessment of Bias at Hourly for 2 months (4 years)
- Assessment of Bias at Daily scale for 4 years (2008 - 2011)
- Gauge radar merging for one year (2011)



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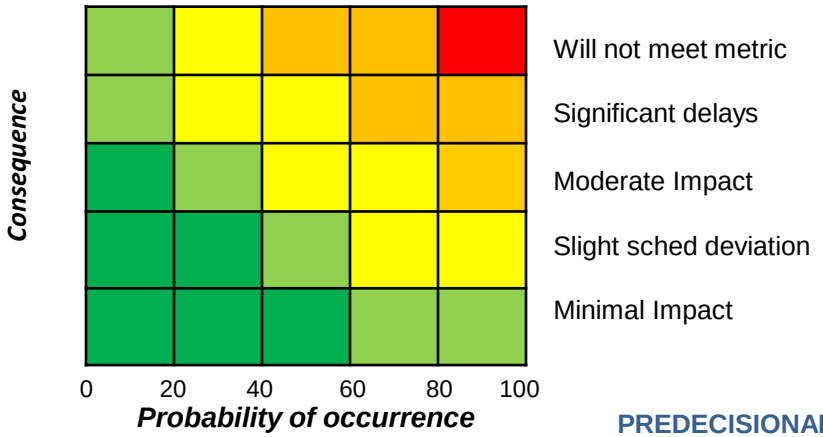

Risk and Mitigation

No Risk at this time

PREDECISIONAL DRAFT INFORMATION

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CDR Program Office

ISCCP Processing @ NCDC

Project Manager:
A. Young/K. Knapp

Weekly Status Update

- Inter-comparing test month run at NCDC and CCNY
- Preparing for QC of input satellite data
- Awaiting final ancillary data delivery
- Continuing to pre-process data.
- Ordering replacement data from EUMETSAT
- Sent beta data to users for feedback.
- Preparing ancillary calibration data for processing.
- Working on ISCCP Website for NCDC
- Preparing data for Beta users (preliminary output)
- Prepared space and scripts for ISCCP processing on CICS server.
- Received pre-processing software to QC input files (GEO/B1 & LEO/AVHRR)

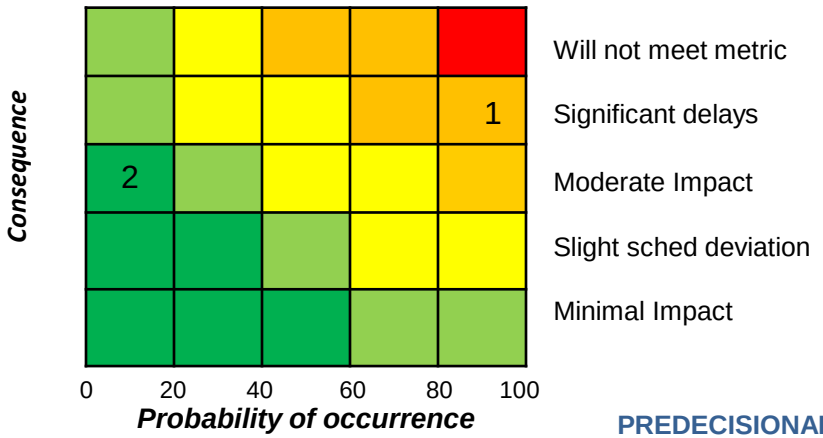
Objectives

Produce ISCCP cloud products at NCDC following IOC R2O procedures. Plan for routine updates to follow.

Schedule

Start Date	1983? 2003? 2013?
Begin processing	September 2014
End processing	December 2014
QC & Analysis	Jan-Feb 2015
Archive	March 2015
Routine updates start	June 2015

Risk Matrix



Risk and Mitigation

1. Delivery of software late and other delays.
   Raised level to Significant delays. Processing will now likely start 2 months late. Impact: completion will be delayed.
2. CICS server space
   Raised level to moderate impact. Production space will require intervention to allow for AOTA (Albedo) project to start.

PREDECISIONAL DRAFT INFORMATION

8/7/2014

= On-track = Potential management action required = Management attention required

CDR Program Office

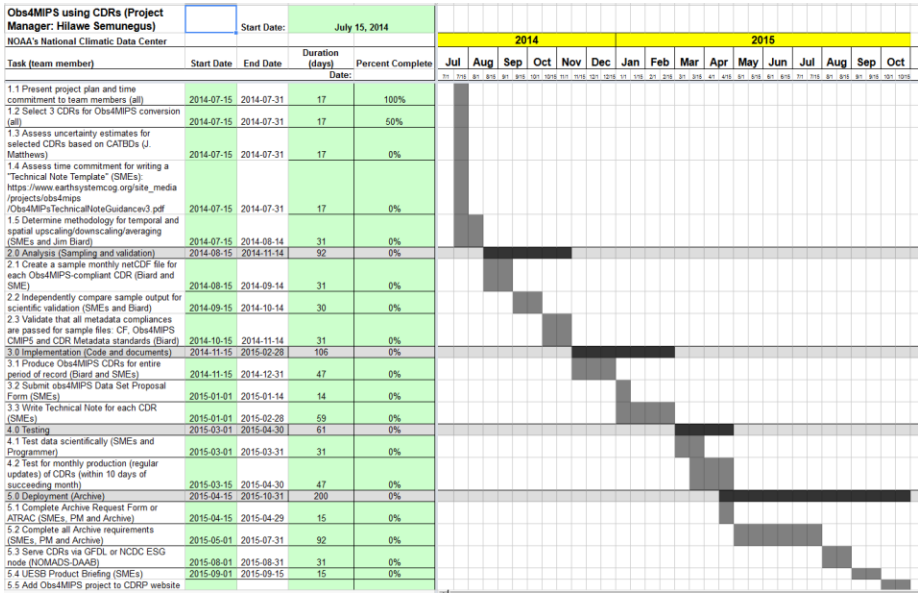
Obs4MIPS

Project Manager:
H. Semunegus

Weekly Status Update

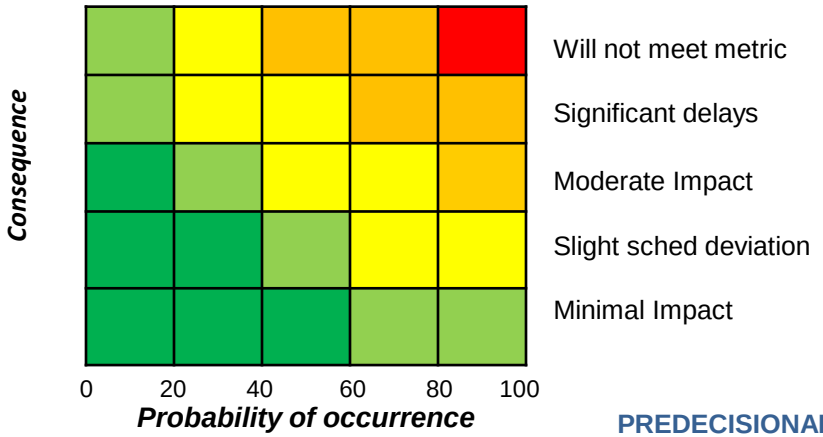
- J. Baird completed a sample file for each projected variable.
- J. Baird prototyped a conversion utility.
- Scoping out a potential third dataset for initial transition.
- Test data was converted to Obs4MIPS format.
- Planning meeting completed and schedule revised.
- Initial datasets selected for Obs4MIPS: OISST and OLR
- Lots of emails and investigations ongoing.
- Many CDRs can't work in Obs4MIPS: all FCDRs and all Mean Layer Temperatures aren't fit for this purpose.
- Kickoff meeting held 7/18
- Initial plans developed.

Initial datasets: Daily OLR, OISST, Sea Ice



Obs4MIPS using CDRs (Project Manager: Hilawe Semunegus)		Start Date:	July 15, 2014	
NOAA's National Climatic Data Center				
Task (team member)	Start Date	End Date	Duration (days)	Percent Complete
			Date:	
1.1 Present project plan and time commitment to team members (all)	2014-07-15	2014-07-31	17	100%
1.2 Select 3 CDRs for Obs4MIPS conversion (all)	2014-07-15	2014-07-31	17	50%
1.3 Assess uncertainty estimates for selected CDRs based on CATBDs (J. Matthews)	2014-07-15	2014-07-31	17	0%
1.4 Assess time commitment for writing a "Technical Note Template" (SMEs): https://www.earthsystemcog.org/site_media/projects/obs4mips/Obs4MIPsTechnicalNoteGuidancev3.pdf	2014-07-15	2014-07-31	17	0%
1.5 Determine methodology for temporal and spatial upscaling/downscaling/averaging (SMEs and Jim Biard)	2014-07-15	2014-08-14	31	0%
2.0 Analysis (Sampling and validation)	2014-08-15	2014-11-14	92	0%
2.1 Create a sample monthly netCDF file for each Obs4MIPS-compliant CDR (Biard and SME)	2014-08-15	2014-09-14	31	0%
2.2 Independently compare sample output for scientific validation (SMEs and Biard)	2014-09-15	2014-10-14	30	0%
2.3 Validate that all metadata compliances are passed for sample files: CF, Obs4MIPS CMIP5 and CDR Metadata standards (Biard)	2014-10-15	2014-11-14	31	0%
3.0 Implementation (Code and documents)	2014-11-15	2015-02-28	106	0%
3.1 Produce Obs4MIPS CDRs for entire period of record (Biard and SMEs)	2014-11-15	2014-12-31	47	0%
3.2 Submit obs4MIPS Data Set Proposal Form (SMEs)	2015-01-01	2015-01-14	14	0%
3.3 Write Technical Note for each CDR (SMEs)	2015-01-01	2015-02-28	59	0%
4.0 Testing	2015-03-01	2015-04-30	61	0%
4.1 Test data scientifically (SMEs and Programmer)	2015-03-01	2015-03-31	31	0%
4.2 Test for monthly production (regular updates) of CDRs (within 10 days of succeeding month)	2015-03-15	2015-04-30	47	0%
5.0 Deployment (Archive)	2015-04-15	2015-10-31	200	0%
5.1 Complete Archive Request Form or ATRAC (SMEs, PM and Archive)	2015-04-15	2015-04-29	15	0%
5.2 Complete all Archive requirements (SMEs, PM and Archive)	2015-05-01	2015-07-31	92	0%
5.3 Serve CDRs via GFDL or NCDC ESG node (NOMADS-DAAB)	2015-08-01	2015-08-31	31	0%
5.4 UESB Product Briefing (SMEs)	2015-09-01	2015-09-15	15	0%
5.5 Add Obs4MIPS project to CDRP website				

Risk Matrix



Risk and Mitigation

TBD

PREDECISIONAL DRAFT INFORMATION

= On-track = Potential management action required = Management attention required

CDR Program Office

UW HIRS Processing @ NCDC

Project Manager:
A. Young

Weekly Status Update

- Still awaiting final code delivery from UW.
- S. Stevens will begin preparing scripts for integrated reprocessing.
- Found space to temporarily store 10 TB of 10 yrs of product.
- Waiting for final code delivery from Wisconsin.
- Preparing plan for processing on CICS server.
- Working on finding space for the 10TB of input data (pixel level cloud data).

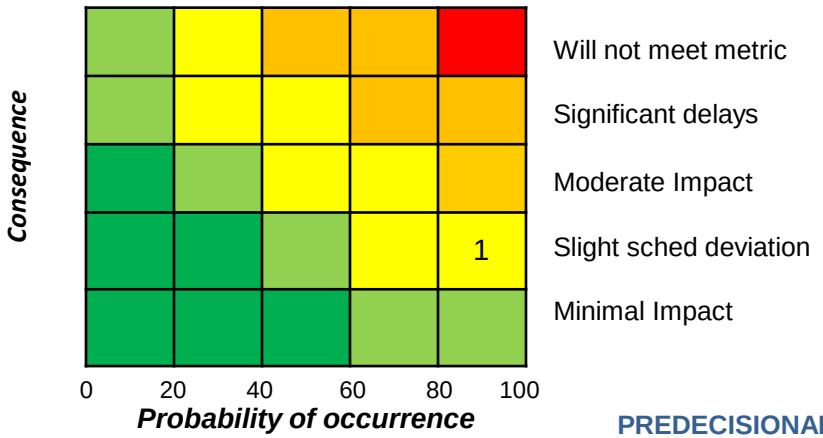
Objectives

Produce global total precipitable water and cloud top pressure estimates from HIRS data using the UW algorithm (P. Menzel).

Schedule

- Start Date TBD
- End Date TBD

Risk Matrix



Risk and Mitigation

1. Programmer was assigned to another task. Impact: Schedule may slip.

CDR Program Office

Albedo of the Americas

Project Manager:
J. Matthews

Weekly Status Update

- Continued validation via collaboration with SAMSI (at NCSU).
- Loaned 42 TB of disk space allocation to ISCCP Project

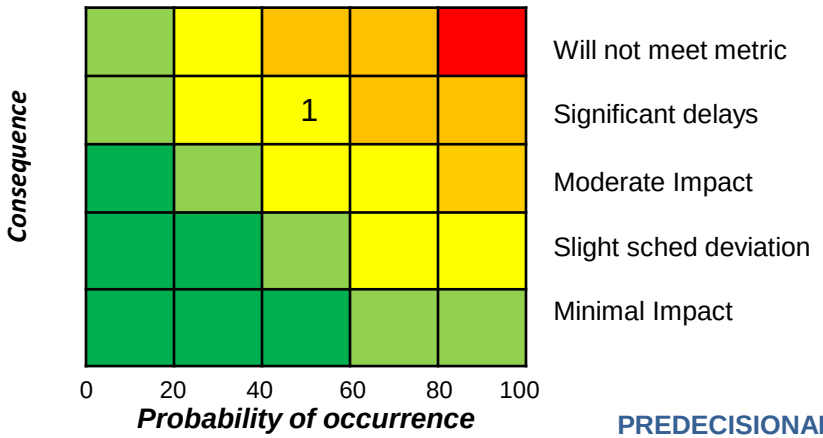
Objectives

Produce a daily land surface albedo product over North and South America from GOES-GVAR observations for 1995-2014.

Schedule

- Start Date — January 2015
- End Date — June 2016

Risk Matrix



Risk and Mitigation

1. Loaned disk space is not returned
   Raised probability to Significant delays. Will likely need CDR support for more disk space and tapes to resolve.

PREDECISIONAL DRAFT INFORMATION

8/7/2014

= On-track = Potential management action required = Management attention required